



# **RADON TESTING AND MITIGATION IN TENNESSEE SCHOOLS**

## **INTRODUCTION TO RADON IN SCHOOLS**

### **WHAT IS RADON?**

- Naturally occurring radioactive gas.
- Odorless, tasteless, colorless gas undetectable by human senses.
- Known human carcinogen, the second leading cause of lung cancer.
- Indoor concentrations above the EPA action level of 4.0 pCi/L have been found in schools in every state.

### **WHERE DOES RADON COME FROM?**

- Radioactive decay of uranium.
- Commonly found in varying amounts in many types of soil and rock.
- Even trace amounts of uranium may produce significant concentrations of radon.

### **WHAT ARE SOME SOURCES OF RADON IN TENNESSEE?**

- Geologic formations such as Chattanooga shale, phosphates, black shales, coal and granites.
- Found predominately in all east and middle Tennessee counties.
- West Tennessee is at lower risk but is **NOT** free from elevated radon levels.

### **HEALTH RISKS**

- Radon is the second leading cause of lung cancer. Only those who smoke tobacco have a higher risk of lung cancer.
- The National Academy of Sciences (NAS) committee on the biological effect of ionizing radiation estimates 15,000 lung cancer deaths a year are due to radon exposure.
- EPA has declared radon to be the number one environmental health risk in the U.S. Because of the severity of the health risk associated with radon and the wide geographic occurrence of this gas.

### **HOW CAN I LEARN MORE ABOUT RADON IN SCHOOLS?**

- EPA has a series of books available to aid school administrators and maintenance personnel.

### **WHY YOU SHOULD TEST YOUR SCHOOLS?**

- There is the potential for liability for both staff and student exposure.
- The responsibility for the safety and health of both staff and students remains a top priority of administrators and the community.
- Testing and mitigation is voluntary.

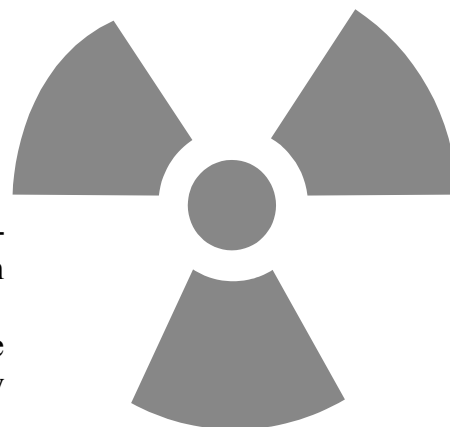
### **RADON TESTING PROGRAM IN SCHOOLS**

- Testing of schools is a free service.
- A broad range of program assistance is available including education, system preparation, organization, mitigation training, and radon resistant construction.



## WHAT CAN BE DONE ONCE A RADON PROBLEM IS IDENTIFIED?

- Reducing radon levels is called mitigation.
- Since radon enters buildings through openings in ground-contact portions of buildings, closure of those openings can reduce radon entry.
- Since radon is drawn into buildings by negative pressure inside the buildings, reversal of pressure differential by depressurizing the soil can also reduce radon entry.
- A training course specifically designed for school personnel working on school buildings is routinely offered in Tennessee.
- Mitigation system design is the only new skill school's maintenance personnel need since they already possess system installation skills and equipment.
- In this hands-on training course, students actually design and install a mitigation system in a school with elevated radon concentrations.
- Schools mitigation training is a free service provided by TDEC.
- Mitigation costs per building depend on the number and type of systems required but material costs per system are typically \$300 - \$700 per building.
- Labor costs will vary by school district.
- Typical operating costs of a radon mitigation system are \$75 per year.
- Maintenance costs are minimal.



## CAN WE PREVENT RADON FROM ENTERING OUR SCHOOL BUILDINGS?

- Yes, by using radon resistant construction techniques when the buildings are constructed.
- Very cost effective method.
- During the construction process is the ideal time to incorporate these features.
- Procedures are simple and require only common construction skills and materials.
- Detailed guidance is available for designers and contractors.

**THE ONLY  
WAY TO KNOW  
IS TO TEST**



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**RADON HOTLINE**

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